

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): A bonding device for bonding an
2 object to be bonded under pressure to a surface to be bonded
3 by allowing a load and vibration to act on the object to be
4 bonded, the bonding device comprising:

5 a bonding tool, abutting on the object to be bonded; and
6 a pressing unit, pressing the bonding tool to the object
7 to be bonded;

8 wherein the bonding tool includes:

9 a transversely elongated horn;
10 a vibrator, applying a longitudinal vibration to the
11 horn in a first longitudinal direction along the longitudinal
12 direction of the horn;

13 a protruding part, protruding from the horn in a
14 second direction substantially perpendicular to the first
15 direction;

16 a bonding operation part, provided in the end part
17 of the protruding part to abut on the object to be bonded; and
18 a heating unit, inserted into a mounting hole
19 provided in the horn; and

20 wherein the heating unit is mounted into the mounting
21 hole in a loose state with a substantial space enough to

22 prevent a contact pressure of the heating unit maintained from
23 against the inner surface of the mounting hole.

1 Claim 2 (original): The bonding device according to claim 1,
2 wherein a vent part is provided for preventing the transfer of
3 heat to the vibrator in the horn between the vibrator and the
4 bonding operation part.

1 Claim 3 (previously presented): The bonding device
2 according to claim 2, wherein the vent part is a transversely
3 elongated slit in the first direction.

1 Claim 4 (withdrawn): The bonding device according to claim
2 1, wherein the heating unit is provided in a part
3 corresponding to an antinode of the vibration of the horn.

1 Claim 5 (currently amended): ~~The~~ A bonding tool for bonding
2 an object to be bonded under pressure to a surface to be
3 bonded by allowing a load and vibration to act on the object
4 to be bonded, the bonding tool comprising:

5 a transversely elongated horn;
6 a vibrator, applying a longitudinal vibration to the horn
7 in a first direction along the longitudinal direction of the
8 horn;
9 a protruding part, protruding from the horn in a second

10 direction substantially perpendicular to the first direction;
11 a bonding operation part, provided in the end part of the
12 protruding part to abut on the object to be bonded; and
13 a heating unit, inserted into a mounting hole provided in
14 the horn;
15 wherein the heating unit is mounted into the mounting
16 hole in a loose state with a substantial space enough to
17 prevent a contact pressure to the heating unit maintained from
18 against the inner surface of the mounting hole.

1 Claim 6 (original): The bonding tool according to claim 5,
2 wherein a vent part is provided for preventing the transfer of
3 heat to the vibrator in the horn between the vibrator and the
4 bonding operation part.

1 Claim 7 (previously presented): The bonding tool according
2 to claim 6, wherein the vent part is a transversely elongated
3 slit in the first direction.

1 Claim 8 (withdrawn): The bonding tool according to claim
2 5, wherein the heating unit is provided in a part
3 corresponding to a antinode of the vibration of the horn.

1 Claim 9 (currently amended): The A bonding tool for bonding
2 an object to be bonded under pressure to a surface to be

3 bonded by allowing a load and vibration to act on the object
4 to be bonded, the bonding tool comprising:

5 a transversely elongated horn;
6 a vibrator, applying a longitudinal vibration to the horn
7 in a first direction along the longitudinal direction of the
8 horn;

9 a protruding part, protruding from the horn in a second
10 direction substantially perpendicular to the first direction;

11 a bonding operation part, provided in the end part of the
12 protruding part to abut on the object to be bonded and;

13 a rod shaped heating unit, inserted into the first
14 direction of the horn.

1 Claim 10 (original): The bonding tool according to claim
2 9, wherein a vent part is provided for preventing the transfer
3 of heat to the vibrator in the horn between the vibrator and
4 the bonding operation part.

1 Claim 11 (previously presented): The bonding tool according
2 to claim 10, wherein the vent part is a transversely elongated
3 slit in the first direction.

1 Claim 12 (withdrawn): The bonding tool according to claim
2 9, wherein the heating unit is provided in a part
3 corresponding to an antinode of the vibration of the horn.